

AGRICULTURAL PROGRESS IN CHINA
A STUDY OF CONDITIONING
FACTORS

BY

CHING PENG MENG

B.S., University of Nanking, 1942
M.S., Cornell University, 1946

AN ABSTRACT OF A THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
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UNIVERSITY OF ILLINOIS, 1949

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There are three types of situations of agriculture viewed for the same country at different times or different countries at the same time: (1) equal rates of growth in the demand for and supply of farm products, (2) unequal growth in demand and supply of farm products with the demand having a tendency to outdistance the supply and (3) unequal growth, with the supply of farm products outdistancing the demand. China, a country of over-population, long operating on a shortage of food-producing resources, has to be placed in the second class. The short supply of capital and available land to the existing rural population, the primitive cultural practices and techniques, the lack of the institutions and mechanisms that bear the burden of adapting and adjusting for advances in technology, for the accumulation of capital and for the extension of cultivated land are the main causes of a persistent low standard of living of farmers as well as the entire people in China.

Capital is scarce in China, but this alone should not prevent the improvement of agriculture. Capital can be formed with domestic resources. China has resources, at present engaged in agriculture and in personal services or unemployed, which can be diverted to capital construction without seriously affecting the output of agricultural production. Relatively simple improvements in agricultural techniques, particularly those in the organization of production, which requires only a small amount of capital, should result in the release of many workers from agriculture, who, in turn, can engage in industrial production and produce capital equipments for the improvement of agriculture. The investment of capital usually takes the form of transportation facilities, fertilizer, irrigation and drainage works, and farm machinery and equipment. Foreign borrowing should make for more rapid capital formation in China although the amount may be small in relation to total needs of agricultural and industrial development in that country. The amount of money sent back by Chinese emigrants before the war was very large so as to equal more than half of the total revenue of the national government annually. Despite the sudden decrease in such remittance because of inflation in present-day China shown in following table, there is every belief that money sent back by emigrants will increase and become an important source of funds for the improvement of agriculture in future China.

Failure to apply increasingly efficient techniques of agricultural production to the available resources is an outstanding factor in lowering the agricultural production per man and per unit of area in China. Adequate quantities of food and raw materials could be produced by fewer men if more efficient methods of production in agriculture such as the breeding of high yield crops and better livestock, the use of better

TABLE 1. MONEY SENT BACK BY CHINESE EMIGRANTS^a

Year	In Chinese Yuan	In U. S. Dollars (equivalent)
1937.....	473,502,000	145,082,137
1938.....	664,070,000	174,466,936
1939.....	1,027,173,000	143,536,334
1940.....	1,328,610,000	64,820,064
1941.....	278,800,000	5,491,515
1942.....	431,041,000	2,873,607
1943.....	1,207,502,000	2,561,368
1944.....	743,276,000	450,471

^a Data are those quoted by Chinese Yearbook 1944-1945. The conversion is made by dividing the Chinese yuan by the official exchange rate for 1937 and adjusting for the respective current purchasing power year by year of the yuan. The purchasing power of the yuan is quoted from the *Economic Weekly* published by the Department of Agricultural Economics, University of Nanking.

methods of controlling insects and diseases and the introducing of effective farm management science were adapted. Achievements made in Western countries should be a fair indication of what can be introduced into China under careful experiments. Their natural and economic adaptations and limitations should be studied as a guide to success.

The cultivated land per farm in China is too small as compared with most of the prosperous agricultural countries. Data of the historical development of total cultivated land and cultivated land per capita in China are listed in following table.

TABLE 2. CULTIVATED LAND PER CAPITA IN CHINA AT DIFFERENT PERIODS^a
(unit: acre)

Dynasty	Year	Population	Cultivated Land	Per Capita
Tang.....	754	52,919,309	233,397,600	4.40
Sung.....	998-1022	21,976,965	87,459,733	3.97
Sung.....	1060	19,229,008	44,166,677	2.31
Ming.....	1381	60,545,812	141,166,667	2.35
Ming.....	1488-1505	53,281,158	70,466,667	1.33
Ming.....	1522-1566	62,530,195	72,676,046	1.17
Ming.....	1573-1619	60,692,836	116,899,605	1.95
Tsing.....	1661	104,707,086	91,559,607	0.89
Tsing.....	1766	182,076,774	123,392,940	0.68
Tsing.....	1872	329,563,216	136,575,532	0.42
Republic.....	1916	409,500,000	230,822,950	0.56
Republic.....	1933	444,486,537	232,000,000	0.52
Republic.....	1942	420,427,567	218,879,667	0.53

^a The figures of population and cultivated land before 1661 A.D. are those quoted by Mable P. H. Lee, *The Economic History of China*, pp. 436-37. Figures from 1661 to 1916 are those quoted by George B. Cressey's *China's Geographic Foundation*, p. 90. Figures in 1933 are quoted from J. L. Buck's *Land Utilization in China*, p. 165. The 1942 figures are those quoted by the *Oriental Yearbook* of 1942. All different measurements are converted into acre basis.

There are possibilities of extending the supply of cultivated land, though not so great as certain agricultural economists have pointed out. Farm land in China can be increased both by cultivation of arable uncultivated land and by better utilization of existing farm land. The former is to be approached through colonization and reclamation. The prospect of an expansion in the cultivated land through colonization is brightest in the Northeast provinces (Manchuria) while reclamation can be successfully operated in many Northwest provinces by better irrigation and the adaptation of dry farming systems. In the problem of better utilization of existing farm land, the introducing of better soil conservation methods to prevent large amount of cultivated lands from being destroyed through misuse is of great importance. Better utilization of land within a farm can be brought about by consolidation, by use of graveyards, and by better use of farmstead areas. It is estimated that the use of graveyards alone could add a food increment enough for an additional three million people in China.

The population in China is too large as compared with existing productive resources. A large part of China's population, estimated as over 70 per cent, is engaging in agriculture. Production has been barely enough for subsistence and little is left for savings. A comparison of per capita gross production and consumption between China and the U.S.A. is listed in the following table.

TABLE 3. PER CAPITA GROSS PRODUCT AND CONSUMPTION IN CHINA
AND THE UNITED STATES
(average 1931-1936 in U.S. dollars)^a

Basis of Comparison	China	U.S.	Ratio of China to the U.S.
A. Per capita gross product:			
a. Chinese figure converted to dollar at current exchange rate.....	20.5	540	26.3
b. Preceding Chinese figure after adjustment for price differences.....	31.0	540	17.4
c. Preceding Chinese figure after adjustment for marketing differences.....	38.0	540	14.2
d. Preceding Chinese figure after adjustment for greater amount of unpaid family work in China.....	40.7	540	13.3
B. Per capita consumption.....	36.6	540	11.1

^a Quoted from D. K. Lieu's *Chinese National Income, 1931-1936*, p. 16.

The possibilities of large scale migration to foreign countries are small. Industrialization in China is greatly needed to offer productive employment to men so released from rural occupation and would substantially reduce the pressure of population on the land. The kind of industries to be developed should be starting with primary industries with low capital and skilled labor requirements. To the writer, it seems likely that industrialization of China will not mean slow increase in farm productivity and rapid increase in population. Improvement in average standard of living seems rather to be what may be expected. The already congested population, the lack of possible migration, the available supply of foreign capital and of skilled technicians all indicate that China may have a possibly great increase in production and only moderate increase in population. A population policy adapted by the government should emphasize quality rather than quantity in China.

The role of government in the improvement of agriculture is very significant. China furnishes an example of a country that at various times has had a government unable to be of sufficient service to the people. An effect has been that agriculture has sunk to a low level. This was true much of the time from 1911 to 1930. The only thing the farmer could do during this time was to make a bare existence on the land. The central government of China from 1931 to 1937 began work along numerous lines to improve agriculture, such as the promotion of agricultural credit organization, the promotion of rural cooperation and education, the reforming of land tenures and land taxation, and the expansion of agricultural extension. Though most of these improvement projects never got beyond the experimental stage, there is no doubt that they appeared at that time to be heading toward benefits that might stimulate a prosperity in agriculture. The importance of the role of government in the progress of agriculture, particularly the improvement of institutional factors which can only be successfully operated by government, will be greatly emphasized in future China.

The war has disturbed the progress of China's agriculture a great deal. The productive capacity and the actual output of agricultural products in China has suffered most where the military draft has deprived the farmers of an adequate supply of manpower and where the war has disorganized the rural economy to such an extent that large tracts of land and farms have been made idle, the yields of crops have declined and the livestock herds have shrunk in numbers. So long as war continues in China, there can be no adequate improvement in China's agriculture. It is of basic importance, therefore, to have peace, order, security, and economic stability before there can be an effective start in the reconstruction of agriculture in China.

VITA

The author was born in the city of Changchow, Kiangsu, China, August 22, 1919. He attended the University of Nanking from 1937 to 1941 and received the degree of Bachelor of Science in the spring of 1942. He studied at Cornell University for one and a half years and received the degree of Master of Science in 1946.

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